October 2001

Poland

Poland has an expanding economy and is in the process of restructuring and reforming its energy industry. Its abundant reserves of coal provide a secure source of energy and foreign exchange, but heavy reliance on coal is also a major source of environmental pollution.

Note: Information contained in this report is the best available as of October 2001 and can change.

BACKGROUND

Poland was one of the first of the former Soviet satellite countries to hold free elections and successfully introduce market reforms (1989). A new constitution was approved by a national referendum in May 1997. On September 23, 2001, Poland held legislative elections in which no party won an outright majority. In October 2001, a coalition government was formed by the Democratic Left Alliance (the former Communist Party) that won 41% of the popular vote, but was still 15 seats short of an absolute majority. It joined with the Polish Peasants Party, and Leszek Miller of the Democratic Left Alliance became prime minister on October 19. The new coalition has called for a relaxing of monetary policy by Poland's Central Bank in order to induce economic growth and reduce the unemployment rate. Poland's GDP growth rate has been slowing, the 2001 forecast is for a relatively low 2.5%. It is predicted that Poland's high rate of foreign direct investment ($10.6 billion invested in 2000) will fall considerably in 2001, indicating that the zloty could fall in value if a more relaxed monetary policy is implemented, in contrast to the current tight one characterized by high real interest rates. The economic downturn has also reduced government revenue, to as little as 49% of the target for January-July 2001, such that without spending cuts, tax increases, or an increase in proceeds from privatizations, the budget deficit could exceed 10% of GDP in 2002. However, Prime Minister Miller pledged in October that he will bring the budget under control within 100 days, and some budget cuts have begun. Poland's inflation rate is at a recent historical low, but unemployment remains a problem.

Poland is planning to enter the European Union (EU) in the group's next expansion, and the country is in the midst of reforms necessary to meet membership criteria. Coal and steel industry restructuring is expected to be completed by the end of 2001, and the energy sector will be open to competition by about 2004. Many Polish farmers are opposed to joining the EU, as they believe it will entail agricultural reforms that will render them unable to compete with imports. Poland has a current account deficit and is working to make its exports more competitive. EU membership is predicted to bring overall benefit to Poland, decreasing trade barriers with key trade partners such as Germany and enhancing political stability. In turn, Poland will be key in EU expansion plans, as Poland is by far the largest country, in terms of both population and gross domestic product, among the twelve states that have begun discussion of accession to the EU.

Energy

In April 1997, the Polish government passed a new Energy Act, which required the Government Economic Committee to pass "Guidelines on Poland's Energy Policy Through 2020." The document spells out long term energy forecasts and action plans for the Polish government. The key objectives include: increased security of energy supplies, requiring diversification of sources; increased competitiveness for Polish energy sources in domestic and international markets; environmental protection; improving energy efficiency; and reducing energy-related emissions. Coal is Poland's most important domestic energy source. While coal production is declining and will continue to decline over the coming years, it will remain a key energy source. Poland, like many former-Eastern Bloc economies, was characterized by a high level of energy intensity. As Poland's economy changes to one more similar to its Western European neighbors, the level of energy intensity should continue to drop significantly. In 2001, the Supreme Board of Inspection (NIK) released a report stating that energy sector reform is moving too slowly. The report cited insufficient privatization in the oil sector, a halt in natural gas sector restructuring due to a dispute with the regulator, and problems with coal sector reforms. Poland will have to have a 90-day oil reserve by 2008 as part of its EU agreements.

OIL

Poland, with proven oil reserves of only 115 million barrels, relied on imports for 98% of its 2000 oil consumption. Oil demand is expected to increase by as much as 50% by 2020. Despite production of only 10,000 barrels per day (bbl/d) in 2000, this is a 100% increase in production compared to the previous year. Polish oil production comes primarily from fields in southern and western Poland, with the southern reserves nearly exhausted. However, the Barnówko - Mostno - Buszewo "BMB" field discovered in 1996 in the Polish part of the Permian Basin (near the German border directly east of Berlin) has potential reserves of about 73 million barrels and the Miedzychod field is estimated to have even more, so Poland should be able to increase its production as these fields come on line.

Poland's oil and gas industries were consolidated in 1981 into a single entity, the state-owned Polish Oil and Gas Company (PGNiG), which dominates the natural gas and upstream oil industries. In 1996 PGNiG became a joint-stock company. The company is slated for privatization after restructuring is completed, bringing the country into line with EU regulations. While a specific privatization plan remains forthcoming, major components of the company are expected to become independent from each other, rather than having a single holding company. There could be one upstream company; one company responsible for gas trade, transmission and storage; and four regional gas distribution companies. The upstream company and the four distribution companies would be privatized first, while the transmission and storage company could remain state-owned for longer.

Oil imports from Russia through the "Friendship" ("Druzhba" in Russian, "Przyjazn" in Polish) pipeline traditionally have been the main Polish oil source. Following the breakup of the Soviet Bloc, Poland attempted to diversify its oil sources and to reduce its dependence on Russian oil. For this reason, the "Naftoport" oil terminal at Gdansk was constructed in the 1990s, which has a capacity to receive about 600,000 bbl/d. However, Russian oil has remained relatively inexpensive, and economic factors have resulted in Poland actually increasing its imports of Russian oil. In addition, Poland imports oil from Russia's Kaliningrad enclave through the Naftoport.

Russian oil is not imported through direct agreements with Russian suppliers. Rather, there is a complex network of middlemen, the most important of which is the J&S Company of Cyprus. In 2000, 60% of the crude oil purchased by PKN Orlen and 70% of the oil purchased by Rafineria Gdansk (RG) was from J&S. It is estimated that J&S supplies between 60% and 70% of of all crude oil processed by Polish refineries. To the Russians, these middlemen are referred to as "operators" and because of a host of regulations, important documents, and licenses, the operators do all the paperwork and financial transfers. Some Polish politicians have questioned this system.

Poland and Ukraine reached an agreement in February 1999 to complete jointly an extension of the 500,000-bbl/d Odesa-Brody pipeline for Caspian Sea oil to go through Ukraine to Poland.

In July 2000, Germany-based EuroGas, Inc. won ten concessions to explore and develop oil and natural gas deposits in southeast Poland. The company believes that the area, the Karpaten Flysch oil province near the city of Sanok, potentially has a 350-million-barrel oil field, or an equivalent quantity of gas, which would be one of the larger oil and gas discoveries in the region. In November 2000, EuroGas signed an agreement with PGNiG to jointly develop the area through EuroGas' subsidiary. As part of the agreement, PGNiG acquired 30% of EuroGas' Polish subsidiary, EuroGas Polska.

Downstream
Most of Poland's refineries, which were built in the 1960s and 1970s, need modernization in order to meet the current shift in demand towards lighter products such as gasoline and diesel fuel. Refinery capacity also will need to expand to meet growing oil demand. PKN Orlen's 260,000-bbl/d Plock refinery has had some improvements done and others are planned in its efforts to eventually conform to EU standards.

The state's oil companies are held through Nafta Polska, a state holding company and privatization vehicle. Poland's outgoing government announced that it had selected MOL of Hungary for exclusive talks on a possible 17.6% share of the state-owned PKN Orlen (worth about $400 million). Poland's new government has commented that this decision will be reviewed, but there have not been any signs that the decision will be reversed. It is possible that PKN Orlen and MOL may not merge, but instead acquire a cross-holding of 17.6% in each other. In September 2001, the sale of 75% of the 90,000-bbl/d Gdansk refinery to Rotch Energy of the United Kingdom was approved. Rotch paid about $250 million for its stake and agreed to invest $600-$700 million in expansion over the next few years to boost the refinery's capacity to about 150,000 bbl/d.

Gasoline and diesel demand has fallen slightly in recent months, due to higher prices and an economic slowdown. However, the demand for heating oil (which is sometimes used as a vehicle fuel) and liquefied petroleum gas (LPG) has risen sharply, and about 530,000 vehicles in Poland are capable of using LPG, with many vehicles being converted every year.

NATURAL GAS

Poland has an estimated 5.1 trillion cubic feet (Tcf) of natural gas reserves and imported over 60% of its 442-billion cubic feet (Bcf) consumption in 1999. Natural gas production remained fairly stable throughout the 1990s, hovering between 150 Bcf and 180 Bcf. This rate of production is expected to continue into the 21st century, as new exploration takes the place of depleting reserves. FX Energy, a U.S.-based company active in Poland with a 49% stake in the Fences gasfield, plans to announce drilling plans in the fourth quarter of 2001.

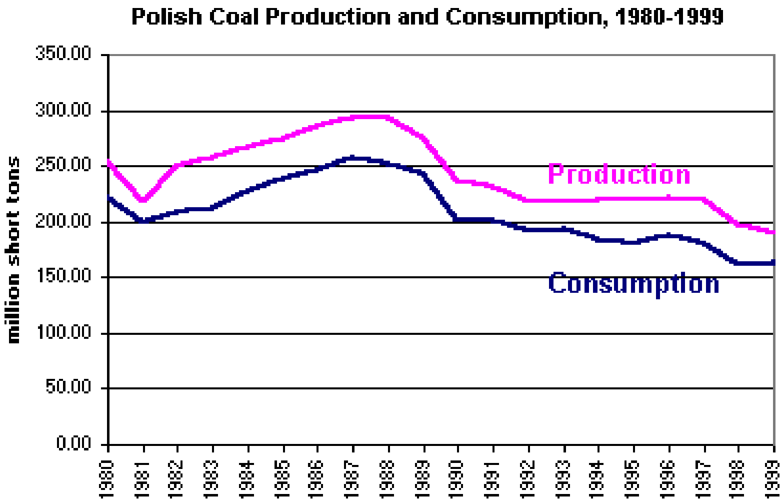
The outlook for natural gas imports into Poland is problematic over the next few years. Despite the fact that Poland's real GDP has grown by about 21% since 1997, natural gas demand has remained flat and is predicted to remain so over the next decade. Much of the reason for this is that natural gas is simply uneconomic for power generation in Poland compared with coal. Yet, at the same time, diversification of gas sources is a high priority in Poland, and those traders with diversified sources will have priority. Russia supplied over 60% of all Polish gas in 2000, with smaller amounts coming from or through Germany as well as from domestic sources. Poland and Russia resolved in June 2001, a disagreement about the route of an extension of the Yamal gas trunkline, with Gazprom's preferred shorter route being accepted. Poland's contracts with Gazprom are for imports to increase to 441 Bcf per year by 2010. PGNiG has recently reached agreements to import Danish and Norwegian natural gas. In July 2001, an agreement was signed with Dansk Olie og Naturgas (DONG) of Denmark to import 16 billion cubic meters (565 Bcf) over eight years, starting in 2003. This would be done through the planned $330-million, 186-mile BalticPipe pipeline, scheduled to be installed in the summer of 2002. The pipeline's capacity, 283 Bcf per year, is four times the volume that PGNiG will import from DONG annually, prompting some to question whether the pipeline will be financially viable. In September 2001, PGNiG and Norway's (now defunct) Gas Negotiating Committee (GFU) agreed to the delivery of 74 billion cubic meters (2.6 Tcf) over 16 years. This replaces the previous contract with Norway for 500 million cubic meters (18 Bcf) per year untill 2006. These deliveries would not start until 2008, and gradually increase over the first three years. Norwegian exports to Poland would require the construction of the $1.1-billion, 683-mile Austerled pipeline. Given probable increasing domestic natural gas production and flat demand, it will be very difficult for Poland to maintain its Russian, Danish, and Norwegian contracts in their present state. In addition, the new government has already signaled that it will probably amend or even cancel some or all of these contracts.

Poland needs to increase its environmental standards in order to achieve member status in the EU. Increased consumption of natural gas, as an alternative to coal, is considered to be a key component of Poland's plan to meet the stricter regulations. The Polish government forecasts that about 14% of electricity will be generated from natural gas by 2020, up from just 2% in 2000, but still a relatively small share. Poland also will need to liberalize at least 28% of its gas market by August 2003, according to EU directives.

The Yamal pipeline connecting Poland to Siberian gas sources began operations in September 1999. The $35-billion pipeline was intended to carry natural gas supplies from the Yamal (West Siberia) field in Russia to Germany and other Western European countries through Belarus and Poland. Under a 25-year contract signed in October 1996, annual throughput capacity of the pipeline is slated to increase to 32 billion cubic meters (about 1.1 Tcf) by 2005. The Polish section is operated by EuroPol Gaz and is 48% owned by PGNiG and Gazprom each, with the remaining 4% owned by a consortium of Polish firms called Gas Trading. Russia is seeking to link this new pipeline with the Southern pipeline, which would allow Russian gas to reach Western European markets while bypassing Ukraine and Slovakia. The recent agreement with Poland on the specific route is noted above.

PGNiG is undertaking a program to add more than 6,200 miles to its gas distribution network by 2010. The company is also planning to invest $670 million over the next three years to upgrade its transmission system. PGNiG is appealing a ruling by the government gas regulatory agency that the company cannot raise its rates. PGNiG believes that raising rates for some customers is vital to its restructuring.

COAL



Although coal represents only 2% of Poland's total GDP, it is by far the dominant fuel in Poland's economy, accounting for 95% of the country's primary energy production in 2000. Polish coal, though of high quality, has various geological features that make it difficult to mine. Hard coal (mostly bituminous) provides about 65% of electricity generation, with brown coal (lignite) providing nearly all of the rest of the fuel consumed in Poland's power plants (many of which provide heat and hot water as well as electricity). Poland is the world's ninth-largest coal exporter, which go primarily to customers in Europe and the former Soviet Union. These exports historically have been a major source of foreign exchange. There are currently seven state-owned coal holding companies. They are: Bytomska Spolka Weglowa (six mines); Rudska Spolka Weglowa (4); Gliwicka Spolka Weglowa SA (5); Katowicki Holding Weglowy (9); Nadwislanska Spolka Weglowa (5); Rybnicka Spolka Weglowa (5); and Jastrzebska Spolka Weglowa (5), for a total of 39 operating mines. Weglokoks is the country's largest coal exporter. The company was created in 1993 as the successor to the state-owned coal monopoly; it is owned by the State Treasury. The other coal exporting company is Kopex, which may merge with Weglokoks in the future.

Coal Yards at Port of Gdansk

In May 1998, Poland announced a comprehensive restructuring program for the coal industry aimed at maximizing efficiency and paying off some of the industry's then $4.5-billion debt. Before Poland's democratization, the industry had been heavily subsidized. In 2000, Poland closed 22 coal mines and partially closed seven others, with about 16,000 miners leaving the industry. This reduced production by about 10.3 million metric tons (11.4 million short tons), but the coal mining industry was profitable for the first time, and has continued to be profitable into 2001. Privatization of mines is just beginning, with the Bogdanka mine, one of Poland's most profitable, approved for a 45% sale to Management Bogdanka, a private company that is a consortium of investors. PricewaterhouseCoopers is advising the Ministry of the Economy on further privatization and restructuring, and three tentative plans have been drawn up that vary in the degree that the size of the sector that is maintained and the degree of subsidies and privatizations that would be put in place. No decision has been taken by the new government on this.

The changes brought about by the coal restructuring program have positive economic and environmental implications, which are important for Poland's accession to the EU. Coal miners have been extremely resistant to the changes, and have held protests and strikes in opposition.

The Polish coal industry is one of the country's most important employers and has a powerful union, so there are important political considerations to all reforms of the sector, as well as commensurate efforts to find employment for displaced miners.

ELECTRICITY

With installed electric capacity of over 30 million kilowatts and 1999 electric generation of 134 billion kilowatt hours (bkwh), the Polish power generation sector is the largest in Central and Eastern Europe. As noted above, most of Poland's electricity comes from coal-fired plants, which are highly polluting and operate with outdated technology. The Polish government expects electricity demand to grow by over 50% by 2020. The Polish electrical grid is part of the CENTREL system, which links the Czech Republic, Slovakia and Hungary. In 1995, the CENTREL system was connected with Western Europe's system. Poland also has connections with Ukraine and Belarus. Currently, both north-south and east-west connections are being expanded, as part of the EU's Trans-European Energy Network project, including a new link to Lithuania. Poland produces more electricity than it consumes and exports the excess to neighboring countries. Polenergia, a new company, was established by Polish grid operator PSE, a German distributor, and a private Polish company, to sell privatized electricity, including electricity from Russia, to Western European markets.

Poland's electricity is produced by a combination of independent power producers that sell to the state-owned grid operator PSE SA, as well as by PSE itself. There are 17 power plants and 19 power and heating (CHP) plants. PSE transfers power to 33 local distributors, of which the G8 Group is the largest. PSE is in the process of initiating an hourly balancing market for Poland. There has been some consolidation of producers, the most important of which is Poludniowy Koncern Energetyczny (PKE) with total capacity of 4,640 MW. It is expected that only consolidated producers will be able to compete with Western companies as the Polish market continues to open.

Poland's status as an ascending EU member makes it more important that efficiency and environmental goals are met in a timely fashion. In November 1998, Poland ambitiously committed to adapting its electricity market regulations to EU standards within four years. Renovation of the sector is expected to cost about $15 billion by 2010. For these reasons, Poland's power generation is in need of investment. Multilateral lending institutions, most notably the World Bank and the European Bank for Reconstruction and Development, are involved heavily in financing and participating in projects ranging from building new, non-coal facilities to providing cleaner technologies for existing coal-fired plants.

Privatization is seen as the key to modernization and efficiency of the electricity sector. In September 1996, a law was passed that laid the foundation for de-monopolization and privatization of the industry. Plans called for reducing the number of generating companies from 35 to 7 and for privatizing power generation by the end of 2001. A law that took effect in December 1997 sets the groundwork for third-party access to the power grid and vests authority in an independent Energy Regulatory Office. However, the privatization has been delayed. According to the head of the Energy Regulatory Office, it will be two to four years until Poland's energy market is truly competitive. Outstanding long term supply contracts between power generators and the national grid company, PSE, need to be resolved before free market pricing can take effect. Currently, companies consuming more than 40 gigawatthours (GWh) of electricity annually can legally choose between suppliers, but this has yet to be fully implemented. Regulations are still seen as insufficiently defining PSE's position in the new system, such that as PSE continues to regulate itself, the opening up of the grid is restricted.

Electricite de France (EdF) is one the the larger investors in the Polish electricity sector thus far. It has a 57.9% share of the El. Krakow CHP plant and 11.5% of the ZEW Kogeneracja CHP plant. Working with Gaz de France, EdF won in June 2000 a tender to buy a 45% stake of the cogeneration company Zespol Electrocieplownia Wybrzeze (ZEcW), which serves Gdansk. EdF already owns a controlling stake in Elektrocieplownia Krakow, serving Krakow, and a smaller stake in a cogeneration group in Wroclaw. EdF is looking to invest in the distribution side as well. Sweden's Vattenfall has already invested in the distribution side, owning 32% of the large southern GZE distribution group as well as 55% of Warsaw's district heating plant in Siekierki. Vattenfall plans to gain majority shares as soon as possible. Belgium's Tractabel recently acquired a 25% stake in the Polaniec power plant, which is Poland's fourth-largest power generator. In August 2001, the Polish government granted Spanish utility Iberdrola the exclusive right to negotiate the acquisition of 25% of the G8 Group electricity distributor. In southern Poland, a new coal-fired plant is under construction by a subsidiary of U.S.-based PSEG to replace the Chorzow plant, now over 100 years old. Enron developed and owns the 116-MW, $132 million Elektrocieplownia Nowa Sarzyna (ENS) power plant in southeastern Poland, the first independently developed power project and one of the first gas-fired cogeneration plants in Poland. The plant came online in mid-2000.

ENVIRONMENT

As the transition to democracy proceeds in Poland, environmental issues have become increasingly important. During the 1980s, Poland was one of the most polluted countries in Europe, and while democratic reforms have brought about reductions in the level of air pollution, there remains much room for improvement. In fact, as Poland negotiates with the European Union (EU) for membership, the EU has spotlighted Poland's environmental record, making the country's accession to the exclusive group contingent on improvements in Poland's environmental record.

Similar to the pattern seen in other transition countries, Poland's energy consumption has decreased in the past 10 years as inefficient factories and industries were closed down. However, unlike the majority of the former Eastern Bloc, production has rebounded in Poland. Although the country's carbon emissions have dropped since 1989, Poland's dependence on coal, along with the explosion in private automobile use among Poles, correlates to high levels of energy and carbon intensity in Poland.

Poland's renewable energy sector is fairly marginal, with only a few hydroelectric power plants. However, as Poland enters the 21st century, the country is beginning to shift away from non-ecological coal mining and related industries towards a more service-oriented, sustainable economy.

COUNTRY OVERVIEW

President: Aleksander Kwasniewski
Prime Minister: Leszek Miller
Independence: November 11, 1918 (proclaimed)
Population (7/01): 38.6 million
Location/Size: Central Europe, east of Germany/120,728 square miles (about the size of New Mexico)
Major Cities: Warsaw (capital), Lodz, Krakow, Wroclaw, Poznan, Gdansk, Szczecin
Language: Polish
Ethnic Groups (1990E): Polish (97.6%), German (1.3%), Ukrainian (0.6%), Byelorussian (0.5%)
Religions: Roman Catholic (95%); Eastern Orthodox, Protestant and other (5%)
Defense (8/98E): Army 142,500; Air Force 55,300; Navy 17,100; Conscripts 141,600

ECONOMIC OVERVIEW

Economy Minister: Jacek Piechota
Currency: Zloty (Zl) = 100 groszy
Exchange Rate (10/30/01): US$1 = 4.08 Zl
Gross Domestic Product, GDP (2000E): $157.7 billion

Real GDP Growth Rate (2000E): 4.0% **(2001F):** 2.5%
Inflation Rate (2000E): 10.1% **(2001F):** 5.5%
Unemployment Rate (2000E): 15.0% **(2001F):** 16.5%
Foreign Exchange Reserves (2000E): $26.6 billion
External Debt (2000E): $58.9 billion
Current Account Balance (2000E): -$9.9 billion
Major Trading Partners: Germany, Russia, Italy, France, Netherlands
Merchandise Exports (2000E): $28.3 billion
Merchandise Imports (2000E): $41.4 billion
Merchandise Trade Balance (2000E): -$13.1 billion
Major Exports (2000): Manufactured goods (44%), machinery and transport equipment (34%), food (8%), chemicals (7%)
Major Imports (2000): Machinery and transport equipment (37%), manufactured goods (29%), chemicals (14%), mineral fuels and lubricants (11%)

ENERGY OVERVIEW

Proven Oil Reserves (1/1/01E): 114.9 million barrels
Oil Production (2000E): 10,000 barrels per day (bbl/d)
Oil Consumption (2000E): 440,000 bbl/d
Net Oil Imports (2000E): 430,000 bbl/d
Crude Refining Capacity (1/1/01E): 382,000 bbl/d
Natural Gas Reserves (1/1/01E): 5,119 billion cubic feet (Bcf)
Natural Gas Production (1999E): 177 Bcf **(2000E preliminary):** 184 Bcf
Natural Gas Consumption (1999E): 442 Bcf **(2000E preliminary):** 465 Bcf
Net Natural Gas Imports (1999E): 266 Bcf
Recoverable Coal Reserves (1996E): 15.8 billion short tons
Coal Production (1999E): 190 million short tons (Mmst) **(2000E preliminary):** 179 Mmst
Coal Consumption (1999E): 164 Mmst **(2000E preliminary):** 155 Mmst
Net Coal Exports (1999E): 27 Mmst
Electric Generating Capacity (1999E): 30.1 gigawatts
Electricity Generation (1999E): 134.4 billion kilowatthours (BkWh) **(2000E preliminary):** 137.3 BkWh
Net Electricity Exports (1999E): 4.9 BkWh **(2000E preliminary):** 6.4 BkWh

ENVIRONMENTAL OVERVIEW

Minister of Environment: Stanislaw Zelichowski
Total Energy Consumption (1999E): 3.8 quadrillion Btu* (1.0% of world total energy consumption)
Energy-Related Carbon Emissions (1999E): 84.5 million metric tons of carbon (1.4% of world total carbon emissions)
Per Capita Energy Consumption (1999E): 99.3 million Btu (vs. U.S. value of 355.8 million Btu)
Per Capita Carbon Emissions (1999E): 2.2 metric tons of carbon (vs. U.S. value of 5.5 metric tons of carbon)
Energy Intensity (1999E): 28,597 Btu/$1990 (vs U.S. value of 12,638 Btu/$1990)**
Carbon Intensity (1999E): 0.63 metric tons of carbon/thousand $1990 (vs U.S. value of 0.19 metric tons/thousand $1990)**
Sectoral Share of Energy Consumption (1998E): Industrial (60.9%), Residential (18.4%), Transportation (12.4%), Commercial (8.3%)
Sectoral Share of Carbon Emissions (1998E): Industrial (62.9%), Residential (17.0%), Transportation (11.0%), Commercial (9.1%)
Fuel Share of Energy Consumption (1999E): Coal (65.2%), Oil (22.4%), Natural Gas (12.4%)
Fuel Share of Carbon Emissions (1999E): Coal (73.6%), Oil (18.2%), Natural Gas (8.1%)
Renewable Energy Consumption (1998E): 204.5 trillion Btu* (15% decrease from 1997)
Number of People per Motor Vehicle (1998): 3.7 (vs. U.S. value of 1.3)

Status in Climate Change Negotiations: Annex I country under the United Nations Framework Convention on Climate Change (ratified July 28th, 1994). Under the negotiated Kyoto Protocol (signed on July 15th, 1998, but not yet ratified), Poland has agreed to reduce greenhouse gases 6% below 1988 levels by the 2008-2012 commitment period.
Major Environmental Issues: Situation has improved since 1989 due to decline in heavy industry and increased environmental concern by postcommunist governments; air pollution nonetheless remains serious because of sulfur dioxide emissions from coal-fired power plants, and the resulting acid rain has caused forest damage; water pollution from industrial and municipal sources is also a problem, as is disposal of hazardous wastes.
Major International Environmental Agreements: A party to Conventions on Air Pollution, Antarctic-Environmental Protocol, Antarctic Treaty, Biodiversity, Climate Change, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Marine Dumping, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Wetlands and Whaling. Has signed, but not ratified, Air Pollution-Nitrogen Oxides, Air Pollution-Persistent Organic Pollutants, Air Pollution-Sulphur 94.

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar and wind electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.
**GDP based on EIA International Energy Annual 1998

ENERGY INDUSTRY

Organization: *Oil and natural gas* - Polish Oil and Gas Mining Company (exploration and production); Oil Pipeline Operating Company, PERN (crude and product pipelines); Europol Gaz (natural gas pipelines); Nafta Polska (downstream holding company); Centrala Produktow Naftowych, CPN (petroleum product distribution); Ciech Petrolimpex (trade); *Electric power* - Polish Power Grid Company (transmission); *Coal* - State Hard Coal Agency; joint stock companies, Katowice Holding Company, state-owned independent companies, Weglokoks (exports), Weglozbyt (domestic sales)
Major Coal Regions: Upper Silesia, Lower Silesia, Lublin
Major Ports: Gdansk, Gdynia, Szczecin
Oil Refineries (1/1/00 Capacity): Petrochemia Plock (260,000 bbl/d), Rafineria Gdanska (90,000 bbl/d)

Sources for this report include: BBC; CIA World Factbook; Economist Intelligence Unit; Financial Times; Polish News Bulletin; U.S. Department of Commerce; U.S. Department of Energy and Energy Information Administration; WEFA.

Links

For more information from EIA on Poland, please see:
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Links to other U.S. government sites:
CIA World Factbook - Poland
U.S. Department of Energy's Office of Fossil Energy, Energy Overview of Poland
U.S. Department of Energy's Office of Fossil Energy, Poland Energy Law
U.S. State Department's Consular Information Sheet - Poland

U.S. Commerce Department's Country Commercial Guide - Poland
U.S. State Department's Background Notes on Poland
Library of Congress Country Study on Poland (October 1992)
U.S. Commerce Department's Market Access and Compliance, Poland
U.S. Commerce Department's Market Access and Compliance, Electric Power Generation in Poland
U.S. Commerce Department's Market Access and Compliance, Profile of Polish Oil and Gas Company
U.S. Commerce Department's Market Access and Compliance, Profile of Polish Natural Gas Sector
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World Bank on Poland
National Association of Regulatory Utility Commissioners on Poland's Energy Regulatory Office
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